In the Claims

Please amend claims 1 and 9 and cancel claims 7, 8, 22 and 26 as follows:

1. (currently amended) An echo/near-end-crosstalk cancellation system for a bi-directional data communications system comprising:

a first finite impulse response filter configured to filter a first portion of a digital representation of a data signal comprising data, low amplitude echo/near-end-crosstalk components and high amplitude echo/near-end-crosstalk components, the first portion comprising bits representing the low amplitude echo/near-end-crosstalk components of the data signal and least significant bits of the high amplitude echo/near-end-crosstalk components of the data signal;

a second finite impulse response filter coupled to the first finite impulse response filter, said second finite impulse response filter configured to filter a second portion of said digital representation of the data signal, said second portion comprising most significant bits of said high amplitude echo/near-end-crosstalk components;

a data partitioning means for partitioning [[a]] said digital representation of the data signal ~~comprising echo/near-end-crosstalk components~~ into said first and second portions such that [[a]] said first portion ~~of a partitioned data signal~~ is processed by the first finite impulse response filter to provide a first filter output value, and [[a]] said second portion ~~of the partitioned data signal~~ is processed by the second finite impulse response filter to provide a second filter output value; and

a combination means for summing the output values from the first and second filters to produce a digital representation of the low and high amplitude echo/near-end-crosstalk components, and subtracting ~~the outputs of the first and second finite impulse response filters~~ said digital representation of the low and high amplitude echo/near-end-crosstalk components from the digital representation of the data signal to provide echo/near-end-crosstalk cancellation.

2. (previously presented) The system according to claim 1, further comprising a control means for adjusting the first and second filter output values.

3. (previously presented) The system according to claim 1, wherein the first finite impulse response filter and the second finite impulse response filter are each implemented as a separate integrated circuit.

4. (previously presented) The system according to claim 1, wherein the first finite impulse response filter is comprised of a plurality of filter elements.

5. (previously presented) The system according to claim 1, wherein the second finite impulse response filter is comprised of a plurality of filter elements.

6. (previously presented) The system according to claim 1, wherein the data partitioning means comprises a plurality of conductors for conducting the first portion of the data signal to the first finite impulse response filter and the second portion of the data signal to the second finite impulse response filter.

7. (cancelled)

8. (cancelled)

9. (currently amended) The system according to claim [[8]] 6, wherein the second portion of the partitioned data signal negates a second portion of an echo/near-end-crosstalk signal generated as a result of the transmission of the data signal, wherein the second portion of the echo/near-end-crosstalk signal is not included in the first portion.

10. (previously presented) The system according to claim 1, wherein the first and second finite impulse response filters are adaptive type filters.

11. (previously presented) The system according to claim 1, wherein the first and second finite impulse response filters are non-adaptive type filters.

12. (previously presented) The system according to claim 1, wherein the first and second finite impulse response filters are digital filters.

13. (previously presented) The system according to claim 1, wherein both the first and second finite impulse response filters are configured identically in direct form.

14. (previously presented) The system according to claim 1, wherein both the first and second finite impulse response filters are configured identically in transpose form.

15. (previously presented) The system according to claim 1, wherein the first and second finite impulse response filters are configured differently, with one being in direct form and the other being in transpose form.

16. (previously presented) The system according to claim 2, wherein the control means for adjusting the first and second filter output values comprises a multi-tap delay line including a plurality of taps, wherein at least one programmable delay line is interposed between two of the plurality of taps.

17. (previously presented) The system according to claim 2, wherein the control means for adjusting each of the first and second filter output values comprises at least one holding register in each finite impulse response filter for implementing a unique one of a plurality of adaptive delays.

18. (previously presented) The system according to claim 1, wherein the first and second finite impulse response filters filter the data signal using either fixed or floating point numbers.

19. (original) A method for partitioning data words in an echo/near-end-crosstalk cancellation circuit for a communications system, comprising the steps of:

determining a first bit resolution from a predetermined number of a plurality of echo/near-end-crosstalk (E/N) signals having a lowest amplitude;

determining a second bit resolution by subtracting the first bit resolution from a bit resolution of a single signal from a plurality of E/N signals having a highest amplitude; and

partitioning the plurality of E/N signals such that a first portion is processed by a first FIR filter having a data path identical to the first bit resolution, and a second portion comprised of bits having a data size exceeding the bit width of the first FIR filter is processed by a second FIR filter having a data path identical to the second bit resolution.

20. (original) The method according to claim 19, wherein the predetermined number of signals comprises a majority of the plurality of E/N signals.

21. (original) The method according to claim 20, wherein the predetermined number of signals comprises three quarters of the plurality of E/N signals.

22. (cancelled)

23. (previously presented) A method for partitioning data words in an echo/near-end-crosstalk cancellation circuit for a bidirectional communications system, comprising the steps of:

determining a first bit resolution from a predetermined number of a plurality of echo/near-end-crosstalk signals, said first bit resolution comprising a majority of lowest amplitude echo/near-end crosstalk signals;

determining a second bit resolution by subtracting the first bit resolution from a bit resolution of a single signal of said plurality of echo/near-end-crosstalk signals having a highest amplitude; and

partitioning the plurality of echo/near-end-crosstalk signals such that a first portion is processed by a first finite impulse response filter having a data path identical to the first bit resolution, and a second portion is processed by a second finite impulse response filter having a data path identical to the second bit resolution.

24. (previously presented) The method according to claim 23, wherein the predetermined number of signals comprises a majority of the plurality of echo/near-end-crosstalk signals.

25. (previously presented) The method according to claim 24, wherein the predetermined number of signals comprises three quarters of the plurality of echo/near-end-crosstalk signals.

26. (cancelled)